List of M.Tech Dissertation Submitted

Sr. No.	Name of Student	University Roll No	Branch	Title of Thesis	Name of Guide-1	Name of Guide -2	Name of Guide-3	Abstract
1.	Richa Goyal	1267136	CSE	Lossless Image Compression Using Data Folding Followed by Arithmetic Coding	**Er. Sourav Garg**			There are many techniques that can be used for image compression. Different techniques are used to compress different types of files such as image, content, audio, video, document files and many others. Choosing the right technique to compress a file is very important. Not every technique is suitable for all the files. We need to know which compression technique will give lossless. Lossy techniques can be classified under two categories: lossy and lossless. Lossy technique cannot reconstruct the original image as it is. In lossless techniques, the reconstructed image is almost the same as the original image. The difference is due to loss of information. When an image is compressed, there is a loss of information. This loss is much higher in loosy techniques as compared to the lossless techniques. There are different algorithms categorized under lossy and lossless image compression techniques. Algorithm has its own significance. We need to choose the correct algorithm for our application. Some techniques can also be used together in hybridization in order to achieve better results.in this thesis work we have proposed a hybridized lossless compression techniques i.e. data folding followed by arithmetic coding using two very effective lossless algorithms that will perform compression on images.
2.	Sumit Jain	1301796	Mech Engg.	A Case Study Of Inventory Management & Control	Prof. Sandeep Sharma	Prof. R.K. Goyal	Er. Mohit Gaba	Inventory is the backbone of every industry. It is an intangible part of any Production enterprise. The tooling inventory holds utmost importance. The management and control of this inventory is very important for a successful entrepreneur. The management &reduction in cost of tooling inventory can be done by using different models. My research work was based on Implementing Economic Order Quantity Model on the various tools of a cold forging nut manufacturing unit. This research work was divided in two parts. In the first part of the research study & data collection of the whole inventory tooling was gathered of Jawala Industries

								Pvt. Ltd. Nabha. The whole data was converted into tabular form. In the Second part of study the concept of Economic Order Quantity was implemented after studying other models. The graphical representation showing the comparison between initial & final results were obtained Finally the costing, number of orders placed annually & ordering costs were reduced drastically which added a lot to the profits of the company.
3.	Karmveer Singh	1301787	Mech Engg.	Separation Of Unburnt Carbon Contents Present In Fly Ash By Froth Floatation Process	Prof. Sandeep Sharma	Er. Mohit Gaba		Fly ash, generated during the combustion of coal for energy production, is an industrial by-product which is recognized as an environmental pollutant. Because of the environmental problems presented by the fly ash, considerable research has been undertaken on the subject worldwide. An industrial fly ash sample was separated by different processes, which were triboelectrostatic separation, ultrasonic column agglomeration, and column flotation, froth flotation, air classifier, magnetic separation and gravity separation. The separation is based on the following characteristics of particles: • Size and shape • Density • Surface properties Further, these separation processes may be divided into two broad categories: • Wet separation processes • Dry separation processes In the present study the percentage of unburnt carbon present in fly ash is calculated. This research work is divided into two stages. In the first stage the sample is collected from the Guru Nanak Dev Thermal Plant Bathinda. In the second stage we use froth flotation, sieve analysis and fluidized bed separation process to remove the unburnt carbon present in the fly ash. It is observed that the efficiency of froth flotation is higher than sieve analysis and fluidized bed separation process.
4.	Balraj Singh	1301777	Mech Engg.	A Performance Comparison Of Refrigerants R-22/R-134a By	Prof. Sandeep Sharma	Er. Mohit Gaba		Nowadays due to increase in population, industrialization, pollution and global warming effects the temperature of earth surface is going higher and higher. Due to which it is becoming very difficult to survive in this kind of

				Weight 30/70 Andr-22/R-410a By Weight 30/70				environment. The refrigerants used in these days has reduced their efficiency .It is becoming difficult for air conditioners and refrigerators to work properly in higher temperatures .The coefficient of performance of refrigerants used in these days is decreasing. So we need some alternatives of refrigerants by performing different experiments. In this study we have tried the experiment to get the alternatives of old refrigerants to increase the coefficient of performance and reduce the refrigerant effect on ozone layer which will be beneficial in coming days. The commonly used refrigerants in these days are R-22, R-12, R-410a, R-134a. This research work is divided into two stages. In the first stage we have created the following two combination of refrigerant as given below. 1. Combination no 1:- R-22 and R-134a is used by us. We use 30% of R-22 and 70% of R-134a. 2. Combination no 2:- R-22 and R-410a is used by us. We use 30% of R-22 and 70% of R-410a. In the second stage the test rig. of the air conditioning is prepared and then testing is done by using the combination no 1 and combination no 2. From the test result deviation in C.O.P. , evaporator temperature , evaporator pressure and power consumption is shown. The combination no 1 and combination no 2 prepared have very less effect ozone layer depletion.
5.	Yash Sharma	1301821	CSE	Prediction Based Clustering With Crcn	Er. Manish Mittal			A VANET turns participating car into a wireless router or node which allowing cars 100 to 300 meters of each other to connect and create a network with a wide range. As cars fall out of the signal range and drop out of the network, other cars can join in, connecting vehicles to one another so that a mobile network is created. It is estimated that the first systems that will be this technology are police and fire vehicles to communicate with each other for the purpose of security. A cognitive radio is an intelligent radio that can be modified and designed progressively. Its handset is intended to utilize the best remote channels as a part of its region. Safety message has to transmit for the security reasons on the vehicle and road transportation various routing protocols have been utilized for the purpose of message transmission. GPRS, AODV, DSR, PUMA these are various routing protocol utilizes for message transmission VANET'S'S

								scenario is used for mainly V2V and V2R purposes. V2V is vehicle to vehicle communications and V2R is vehicle to roadside communication. In various scenarios message transmission is done according to vehicle density available on the road. Based on the real time road density vehicle establish reliable route for the communication on packet delivery. The main issue of road density is due to high load on road message communication get overhead due to less amount of network bandwidth to overcome this issue cognitive radio bandwidth can be utilize for data transmission by channel sensing and message can be transmit through cognitive radio channels. We got various types of parameters & on the basis of these parameters we conclude that our system gives us better results.
6.	Taranjot kaur	1267141	CSE	Image Denoising Using Hybrid Thresholding, Mfht And Hybrid Post Filtering	Er. Manish Mittal			Denoising mainly refers to the removal of noise to represent the data in a more refined form. Another major functionality is to keep intact the valuable information while eliminating the unwanted signals. In image denoising, the image undergoes a process in which various algorithms are performed in order to clean the image. It is required to denoise images in order to reduce the random noise elements to better understand the image. The unwanted signals may enter the image at any point of time. This can be while capturing the image, due to the capturing source, while transmission and many other factors. Majorly all kinds of noise fall into two main categories namely photo electronic noise and impulse noise. As denoising is itself a process and a foremost step in other processes, it has become mandatory to consider denoising a key course of action. Image denoising plays a crucial role in the field of image restoration and image enhancement. The two kinds of algorithms developed to overcome image denoising are spatial domain filters and transform domain filters. Spatial domain comprises of linear and nonlinear filters and transform domain includes fourier transform filters and wavelet transform filters. Out of these, the wavelet transformation has gained recognition in last decade. The aim of this research is to identify a new technique in the field of image denoising that is based on wavelet transform. It includes two thres holding techniques: neigh shrink and bayes shrink. For the decomposition purposes, Modified Fast Haar Transform has been used. Further, the resultant

								image thus obtained after alpha blending, undergoes a hybrid of two filters (mean or average and adaptive intensity transformations) to enhance the quality of the image. The results have been compared on the basis of three quality metrices namely Peak Signal to Noise Ratio, Standard Deviation, Contrast to Noise Ratio and Entropy.
7.	Gurpreet Singh	1267146	ME	Mathematical Modeling of Real Plant Using Bubbling Fluidized Bed Based on Pet Coke & Co-Firing	Prof. Sandeep Sharma	Er. Mohit Gaba		Rice is cultivated in all the main regions of world. Rice husk, rice straw and rice bran are three types of rice crop waste materials available today. Of these, rice husk and rice straw are the only types of rice waste which could be incinerated in fluidized bed combustors. The total rice waste generated is comprised of 20% rice husk, 70-80% rice straw and 2-3% rice bran. Rice straw is burned in open fields, ploughed in fields, used in compost, cattle house flooring and about 10-15% of total rice straw is available for direct combustion in commercial fluidized bed combustors in Punjab state. The available 10-15% rice straw for combustion in fluidized bed combustors is also dependent on region/area. Due to higher collection cost of rice straw it was not used in many of commercial fluidized bed combustors in the state. Rice husk being easily bought from rice mill owners is easily available for most of the commercial fluidized bed combustors. The study presented here is mainly focused on rice husk. The work presented in this thesis is mainly divided into two main parts. In the first part of study the data was collected from the 32.5TPH boiler of Vishal Paper Mill(VPM), Khusropur. The plant works on the 100 % coal and co-firing of rice husk with coal based upon the load and availability of the fuel. The agglomeration samples were also collected from the plant. In the second part of study the problem of agglomeration with respect to rice husk has been discussed and the reasons for the agglomeration were gathered by SEM & EDS testing. In last the mathematical modeling of the plant is done. All the results from the model for co-firing and rice husk are coming within permissible limits.
8.	Narinder Singh	1301791	ME	Transient Analysis And Random Vibration Analysis Of	Prof. Sandeep Sharma	Er. Mohit Gaba		Although steel, the most common material used in wheel production, is an alloy of iron and carbon, but the term "alloy wheel" is usually reserved for wheels made from nonferrous alloys. Alloy wheels are wheels that are usually made from materials like aluminum, magnesium or titanium

				Alloy Wheel Under Radial Load With Finite Element Method (Fem)"					and mostly are mixtures of metal and other elements. They generally provide greater strength over pure metals, which are usually much softer and more ductile. Alloys are typically lighter for the same strength, provide better heat conduction, and often produce improved cosmetic appearance over steel wheels. In this research we proposed a detailed "Transient Analysis and Random Vibration Analysis of Alloy Wheel under Radial Load". During the part of project a transient and random vibration analysis of alloy wheel was carried out using FEA package. The 3 dimensional model of the wheel was designed using Solid Works. Then the 3-D model was imported into ANSYS using the IGES format. Alloy Wheel is constrained in all degree of freedom at the PCD and hub portion. The pressure is applied on the rim. We calculate the total deformation and von-mises stress by using FEA software and we find out the effect of transient (time varying) loads and the stress generated on alloy wheel and damage of alloy wheel by using S-N curve is input for different materials. Vibration on the alloy wheel is also studied in this research. The study of stress generation due to time varying load and vibration by changing the material, in the titanium alloy wheel the stresses is generating slowly by the variation in time as compare to aluminum and magnesium. The tensile yield strength of titanium alloy is around 572 MPa. Therefore titanium alloy wheel can wear the stresses near about 572 MPa. The maximum stress is generated in titanium alloy wheel is 157.44 Mpa with time varying pressure of 3 MPa (0s-10s). The vibration is generated in the titanium alloy wheel at maximum Acceleration [(mm/s²)²/Hz] 5.00E+06 is very low as compare to other materials. The maximum stress is generated due to random vibration is 1.441e-006 MPa.
9.	Payal Kaushal	1267133	CSE	Rle And Fractal Image Encoding Based Watermarking	Er. Navjot kaur				A watermark is a visible embedded overlay on a digital photo consisting of text, a logo, or a copyright notice. The purpose of a watermark is to discourage its unauthorized use and identify the work. Though a visible watermark can't prevent unauthorized use, it makes it more difficult for those who may want to claim someone else's photo or art work as their own. It is the process of inserting the watermarked message in a host document in some multimedia format.

								Watermarking presents the basic model for extraction and embedding of watermark. Watermark is basically required to protect the information from the unauthorized access. The copyright security, capacity, protection, robustness etc are some of the important factors that are taken in account while the watermarking system is designed. In this research there is discussion on present's study of the digital watermarking process, concept, applications and its contributions in various other fields and the improvement steps for it. Digital watermark is a marker covertly embedded in a noise-tolerant signal such as audio or image data. It is typically used to identify the ownership of copyright.
10.	Dipika Sharma	1301805	CSE	Pre-Processing and Filtering Of Network Traffic Classification Using Hybrid Technique	Er. Rajnish Kansal			Computer networks became very important for our life. Many people sue them in everyday life and many companies need them for their business. Unfortunately, there is also an effort to misuse the network in order to thwart illegal distribution of copyrighted works, send fraudulent messages, attack other clients etc. Traffic classification is an automatic process for generating traffic according to different parameters into a number of traffic classes. Traffic classification has been emerging day by day from past few years. It is widely used in networks, including intrusion detection, security and research. Network traffic classification is the study by various techniques and methods that can be better classifier of network traffic. Previous techniques of network classification are becoming very hard. In this research hybrid method is proposed which involves combination of naive bayes and decision table so as to improve the performance i.e. accuracy.
11.	Moninderpal Kaur	1267131	CSE	Smartphone Based Cloud Architecture For Accessing Web Service	Er. Rajnish Kansal`			Cloud computing in smartphones is the combination of smartphones and cloud computing based web services. It is used for information and applications without the need of complex and costly hardware and software. Main problems of mobile computing are connections setbacks, bandwidth, heterogeneous webs and bottleneck issues. With the advent of the Internet and the plurality and collection of elaborate requests it held alongside it, the demand for extra elevated services on cellular phones is increasingly becoming urgent. Unfortunately, the new enabling technologies did not prosper in boosting new services. The adoption of Internet services has shown to be extra tough due to the difference amid the Internet and the mobile telecommunication system.

									Many examined the characteristics of the mobile arrangement and to elucidate the constraints that are imposed on continuing mobile services. The analysis of current mobile service architecture such as voice communication, supplementary services with intelligent network, enabling services on with application tool kit, text services with short message service, internet services with WAP and dynamic applications on mobile phones are need mediation frameworks for seamless integrations. The literature also suggests the challenges of mobile computing which includes harsh communications, connections, bandwidth and heterogeneous networks. This research investigates the Web services for supporting for existing online and cloud based services for Smartphone's using middleware architectures. In this research there is discussion on architectures of cloud computing and also the challenges occurred in those.
12.	Simranjit Kaur	1267139	CSE	Analysis of Iris Recognition Based on FAR And FRR Using Hough Transform	Er. Saurav Garg				Iris Recognition is an identification method of biometric authentication that uses pattern recognition techniques on images of irises to identify an individual. The purpose of 'Iris Recognition', which is a biometrical based technology for personal identification and verification, is to recognize a person from his/her iris prints. A biometric system provides automatic identification of an individual based on a unique feature or characteristic possessed by the individual. Iris recognition is the most reliable and accurate biometric identification system available. In our work we use some steps to recognize individual. 1. Image Acquisition- It is used to capture a sequence of iris images from the subject using a specifically designed sensor. Image acquisition step is one of the most sensitive and important for the quality of image to be processed. The data which is extracted from raw input that determines the performance of the entire system. 2. Localization- The iris is acquired as a part of a larger image that contains data derived from the surrounding eye region. So it is important to localize that portion of the image that corresponds to iris. 3. Normalization- Normalization is a process that changes the range of pixel intensity values. It produce iris region which have the same constant dimensions, so that two images of the same iris under different conditions will have

								same features. 4. Feature Extraction- The most important step in automatic iris recognition is the ability of extracting some unique attributes from iris, which help to generate a specific code for each individual. Feature extraction is a special form of dimensionality reduction. 5. Pattern Matching- Matching phases comes in the last phase after all the initial phases. The feature generated in the feature extraction method is taken as the input value for matching the iris image with the iris codes. To authenticate via identification or verification, a template created by imaging the iris is compared to a stored value template in a database.
13	Jasmeen	1267126	CSE	Abnormality Identification from MRI Image using Curvelets Transform	Er. Parvinder Singh			Brain image segmentation is one of the most important parts of clinical diagnostic tools. Brain images mostly contain noise, sometimes deviation. Therefore, accurate segmentation of brain images is a very difficult task. However, the process of accurate segmentation of these images is very important and crucial for a correct diagnosis by clinical tools. We presented the method "Curvelets Transform" for the accuracy of the results and high quality in respect to angle, time and phase. This method is best suited for curves. The goal of image segmentation is to cluster pixels into salient image regions, i.e., regions corresponding to individual surfaces, objects, or natural parts of objects. It is the combination of both frequencies as well phase calculations using various parameters, getting the better results of the curves and edges.
14	Yashpreet Sain	1267143	CSE	Medical Image Compression using ISPIHT and modified JPEG2000 Hybrid	Er. Saurav Garg			Compression means reduction in number of bits that are used to represent the data. The aim behind data compression is to reduce the size of data without losing any valuable information. It is required to compress data in order to reduce the required storage space and to minimize the transfer time over a network. Image compression is also done to fulfil these needs. Compression in digital imaging plays a more vital role especially in the field of medical imaging where a huge amount of storage is required to store these images and retrieve later for diagnosis. This thesis aims at introducing a new compression method that is a based on two lossless compression methods viz. Improved Set Partitioning in Hierarchical Trees (ISPIHT) and modified JPEG2000. The JPEG2000 method has been

								modified by additional block-matching. The results have been compared on various quality matrices that define the compression quality. The Improved Set Partitioning in Hierarchical Trees is an enhanced SPIHT algorithm that is designed to provide maximum quality. However more optimum results can be obtained if it is combined with other techniques such as JPEG2000. The results obtained in the research show the same. The results have been compared on the basis of three quality matrices namely Peak Signal to Noise Ratio, Mean Squared Error and Entropy. These matrices are used to compare the quality of compressed image obtained by all the compression methods.
15	Jashandeep Singh	1267147	ME	Experimental Investigation of Physico-Chemical Values & Combustion Efficiency of FBC Fuelled Plant Using Biomass & Pet coke	Prof. Sandeep Sharma	Er. Mohit Gaba		The combustion of the biomass fuel due to low density is a problem, but the fluidized bed combustion (FBC) is one of the most promising energy conversion options available today. The rice husk is one kind of renewable energy source which is abundant in agricultural state like Punjab. The combustion of such a fuel in fluidized bed is becoming more & more attractive due to lesser emissions as well increasing price of the fossil fuel. The combustion of rice husk in fluidized bed combustors is an attractive possibility of future for power generation, the solution of waste disposal problems and the reduction of greenhouse gases. Rice husk characterized by having high ash content, low bulk density and poor flow characteristics makes it difficult for energy conversion. Whereas rice straw is having low ash content as compared to rice husk, but when available for combustion it creates feeding and agglomeration problems more predominantly as compared to rice husk. Data was collected from Ladhar Paper Mill Nakodar at two fuel ratio based on pet coke of 100% and 100% rice husk. The work presented in this thesis is mainly divided into two stages. In the first stage field study of the plant is done and data is collected from the plant to calculate the various mathematical equations required for the exit gas composition model. The model was used to calculate the exit gas composition mainly oxygen, carbon dioxide and nitrogen & then carbon utilization efficiency. In the second stage, the problem of agglomeration in fluidized bed combustors (FBC) is discussed. SEM testing, XRD testing and TGA testing of fuel samples using the

								different fuel ratio has been done. The agglomeration problem in the above plant which is the main reason of defluidization of boiler about 90% efficiency is achieved of pet coke and about 95% efficiency is achieved when using Rice husk only, results from the model for rice husk are coming within permissible limits.
16	Stephy Gupta	1267140	CSE	Peak Average Power Ratio Reduction In Ofdm System	Er,. Rajnesh Kansal			OFDM is a efficient multicarrier modulation technique for high speed data transmission over multipath fading channels for wireless communication .One of the main problem is high peak to average power ratio which leads to power in efficiency in RF section of the transmitter. Several methods have been proposed to reduce the PAPR. High peak-to-average power ratio (PAPR) is the major drawback for multicarrier transmission. we propose reliable PAPR reducing method that consists in putting together a low complexity followed by special Fractional Fourier Transform (FRFT) block. The input data encoder which provides low order sequences coded modulation is then transmitted through FRFT block. FRFT angles are designed to provide optimal decorrelation between signal and noise. This new method offers competitive performance as well as low complexity compared to previously published methods. Computer simulation for standard WLAN in IEEE 802.11a system shows PAPR improvement and also Bit Error Rate (BER) enhancement by comparison to the competitive methods. Orthogonal Frequency Division Multiplexing (OFDM) is a transmission technique which ensures efficient utilization of the spectrum by allowing overlap of carriers. OFDM is a combination of modulation and multiplexing that is used in the transmission of information and data. Compared with the other wireless transmission techniques like Frequency Division Multiple Access (FDMA), Code Division Multiple Access (CDMA), OFDM has numerous advantages like high spectral density, its robustness to channel fading, its ability to overcome several radio impairment factors such as effect of AWGN, impulse noise, multipath fading, etc. Due to this it finds wide application in Digital Audio Broadcasting (DAB), Digital Video Broadcasting (DVB), and Wireless LAN. Most of the wireless LAN standards like IEEE 802.11a or IEEE 802.11g use the OFDM as the main multiplexing scheme for better use of spectrum. In fact in the 4G telecommunication system

									OFDMA is the backbone of it. the benefits of OFDM are high spectral efficiency, resiliency of RF interference, and lower multi-path distortion. OFDM is a powerful modulation technique that is capable of high data rate and is able to eliminate ISI. The OFDM based wireless communication system design includes the design of OFDM transmitter, and OFDM receiver Using MATLAB, simulation of OFDM was done with different modulation techniques using different transform techniques. The digital modulation schemes such as BPSK and QPSK were selected to assess the performance of the designed OFDM system.
17	Ritika Rani	1301984	ECE	An Ofdma Uplink System Approach For Papr Reduction In Mobile Wimax	Er. Manpreet Kaushal				In all-optical OFDM systems, high PAPR is a serious intrinsic defect, deteriorating nonlinear impairment in optical fibers. This paper probes the peak-to-average power ratio (PAPR) theory in all-optical orthogonal frequency division multiplexing (OFDM) optical fibre communication systems. To increase dramatically future wireless communications, many wireless standards (WiMax, IEEE802.11a, LTE, DVB) have adopted the OFDM technology. On the other hand, WiMAX is one of the hottest broadband wireless technology today. WiMAX systems are expected to deliver broadband access services to enterprise and residential customers in an economical way. But, due to outside interference these (WiMAX and OFDM channels) experience the negative effect of a higher value of peak to average power ratio (PAPR or we also call it crest factor). High PAPR (Peak to Average Power Ratio) is the main drawback of OFDM systems. The major aim of this research focuses the mobile WiMAX and typical PAPR reduction techniques available in the literature. We also introduce two precoding based systems: ZCMT precoded random-interleaved OFDMA uplink system and SLM based ZCMT precoded random-interleaved OFDMA uplink system. Computer simulation conveys that the PAPR of the both proposed systems have less PAPR than the WHT precoded random-interleaved OFDMA uplink systems and conventional random-interleaved OFDMA uplink systems. These systems are efficient, distortion less, signal independent and do not require any complex optimizations. Thus, it is concluded that the both proposed uplink systems are more convenient than the conventional random-interleaved OFDMA uplink systems and WHT precoded

								random-interleaved OFDMA uplink systems for the mobile WiMAX systems. The results are concluded with respect to desired Conventional RI-OFDMA system, WHT Precoded RI-OFDMA system, DST Precoded RI-OFDMA system of PAPR values values 13dB, 12 dB and 9dB using 512/QAM modulation.
18	Sandeep Singh	1267151	ME	Effect On Addition Of Cr To Al-29si-1.6cu Hypereutectoid Alloy To Its Mechanical Properties	Prof. Sandeep Sharma	Er. Mohit Gaba		Among all the materials aluminium-silicon alloys have received considerable attention due to their good machining and casting features. These 'aluminium-silicon alloy' meet most of the requirements of aerospace, electrical, automotive industry and manufacturing section. Chromium addition to the aluminium refines the grain structure, improves the Mechanical Properties (such as tensile strength, hardness etc.), thermal conductivity and grain growth of the material. The gravity casting has a coarse grain structure and in pressure die casting during solidification the grain size decreases and also modification of the eutectic silicon particles. In the present work both chromium addition and effect of castings process both gravity as well as pressure die casting has been observed to develop a new alloy with better microstructure and mechanical properties for industrial and manufacturing application. The whole work is divided into two stages. In the first stage the Al-Si alloy (LM-13) has been taken as a parent alloy,and new other test alloys have been prepared each by sand casting pressure die casting (after the addition of chromium powder in different proportions during melting). The chemical composition analysis has been conducted to find out the difference in amount of added chromium before solidification and after solidification. In the second stage Microstructure and hardness is carried out to study the behaviour of parent alloy and new test specimens. The results of the study suggest that after addition of chromium the hardness and micro hardness of new test specimens have improved in both gravity casting as well as in pressure die casting but pressure die casing have more improved results as compared to gravity casting. Key Word: Pressure die casting, gravity casting, microstructure, hardness.
19	Parminder Singh	1301792	ME	To Optimize The Welding	Prof. Sandeep	Er. Mohit		Friction Stir welding (FSW) is a developing strategy in welding that uses a rotating tool to create frictional warmth

				Parameter In Friction Stir Welding Using Taguchi Technique On Aa6063 & Aa6082	Sharma	Gaba		and plastic disfigurement at the welding area, bringing about the arrangement of a joint while the material is in the strong state. Aluminum compounds are broadly utilized as a part of industry due to their better nature of corrosion resistance and high electrical and thermal conductivity. In the present research work, the friction stir welding of different aluminum alloy plates (AA6063 and AA6082) of 100x50x6 mm was examined. Experimental conditions were resolved and the welding system was connected to plates at various rotational speed of 1100, 1400 and 1700 rpm by differing the welding speeds i.e. 70, 50 and 30 mm/min and tool profiles (tapered, squared, cylindrical thread). Tensile strength and Vicker hardness were done on welded joints and the outcomes had been examined utilizing Taguchi L9 orthogonal array. It was find up in the present study that the tensile strength is for the most part influenced by tool tip .Confirmation test demonstrates that error (%) associated with tensile strength and Vickers is 3.25, 4.13. Ideal setting of procedure parameters for tensile strength is 1700rpm, 30mm/min with Square stick instrument, for Vickers hardness it is 1700 rpm, 30mm/min with cylindrical threaded tool. The optimum value for test values for tensile strength and Vickers hardness are 131.05MPa, 58.72 HV.
20	Malwinder Singh	1267150	ME	To Evaluate The Working Comparison Of Refrigerants R-22/R-134a By Weight 20/80 And R-22/R-410a By Weight 20/80	Prof. Sandeep Sharma	Er. Mohit Gaba		Nowadays due to increase in industrialization, pollution, population, and global warming affects the temperature and pollution of earth surface is going increasing. Due to which it is becoming very difficult to survive in this type of environment. The refrigerants used in these days has also reduced their efficiency .It is becoming difficult for refrigerators and air conditioners to work properly in this higher temperatures .The coefficient of performance of refrigerants used in these days has been decreased due requirement of large temperature difference . So we need some alternatives of refrigerants which will full fill the requirement of the market by performing different experiments. In this study we have tried the experiment to get the alternatives of previous used refrigerants to increase the coefficient of performance and reduce the refrigerant effect on ozone layer which will be beneficial in coming days. The commonly used refrigerants in these days are R-22, R-12, R-

									410a, R-134a, R-290 etc. This research work is divided into two stages. In the first stage we have created the following two combination of refrigerant as given below. 1. Combination no 1:- R-22 and R-134a is used by us. We use 20% of R-22 and 80% of R-134a. 2. Combination no 2:- R-22 and R-410a is used by us. We use 20% of R-22 and 80% of R-410a. In the second stage of the research we prepared an air condition test rig and then testing is done by using the combination no 1 and combination no 2. From the test result deviation in C.O.P., evaporator temperature, evaporator pressure and power consumption is observed. The combination no 1 and combination no 2 prepared have very less effect ozone layer depletion. In our research work it found that the C.O.P of combination no 1 is more than the C.O.P of combination no 2. Also the compression ratio is higher in case of combination no 2 than the combination no 1 Key word: Co-efficient of performance (C.O.P.), Power consumption, Compression ratio, Ozone layer depletion
21	Jatinder Kaur	1301972	ECE	Comparative Analysis of Array & Tree Based Different Multiplier Circuits Using 180nm Technology	Er. Vikas Goyal				Continuous scaling of the transistor size and reduction of the operating voltage has led to a significant performance improvement of integrated circuits. Low power consumption and smaller area are some of the most important criteria for the fabrication of DSP systems and high performance systems. Optimizing the power consumption and delay of the multiplier is a major design issue. However, area and speed are usually conflicting constraints so that improving speed results mostly in larger areas. In my research work I try to determine the best solution to this problem by comparing a few multipliers. In my research when I compare the power consumption of all the multipliers I find that CPL & DPL multipliers consume more power. So where power is an important criterion there I should prefer CSL multiplier. The low power consumption quality of multipliers makes it a preferred choice in designing different circuits. In this research, designing of three different types of multipliers, and by implementing the components of different multipliers I compare the working of different multipliers by comparing the power consumption by each of them.

								The result of my research helps me to choose a better option between CSL, DPL & CPL adder in fabricating different systems. Multipliers form one of the most important components of many systems by analyzing the working of different multipliers. It is found that it helps to frame a better system with less power consumption, lesser area and lesser delay. This research focuses on the comparison between two algorithms for multiplication, Array and Wallace Tree. The implementation of these algorithms is performed by designing (8×8) bit multiplier blocks in 0.18μ C MOS technology using EDA Tanner v.13 (evaluation version) framework tools. Furthermore, the 8-bit multipliers cells are compared using EDA Tanner. Multiplier design in this article provides the low power requirement and presents an area efficient approach to low power, no. of transistors are less as compared to CMOS for any design.
22	Gurdarshan Singh	1301781	ME	Experimental Study On CI Engine Using HHO And Biodiesel As A Fuel	Prof. Sandeep Sharma	Er. Mohit Gaba		Biodiesel is seen as a most likely alternative to conventional fossil fuel and H+H+O is a gas which is produced by the process of electrolysis by dividing water into two parts i.e. Hydrogen and Oxygen. The blend of both of these non conventional fuels is tested upon a CI engine and experiment showed that the performance of the engine is almost similar or increased using these blends and the most dangerous gas CO is converted into CO2 which gets absorbed by atmosphere easily. Experiments showed that the blend of rice bran oil with constant HHO flow rate at the range of 5 lpm, 7 lpm and 10 lpm (under the four different loads 25%, 50%, 75%, 100% for this experimental study), turned advantageous to improve the engine torque and specific fuel consumption (SFC). The blends were denoted as RBO5, RBO7 and RBO10. Emission characteristics also got improved by the use of HHO Gas for the favour of environment. All the observations and readings from the experimentation were recorded and compared to the baseline diesel fuel. Observations showed that a constant current (6 Ah) and constant voltage (12V) is sufficient for the process of electrolysis. The conclusions drawn from this study were small increase in the brake horse power, increases in brake thermal efficiency up to 3.5%, the exhaust temperature was reduced by 25-30% and fuel consumption decreased by 10-30% at

								different load conditions using blend of rice bran oil and HHO gas. Combustion of electrolysis products taken directly from common-ducted electrolysis unit exhibit unique properties. One of these properties it directly mixes with air inside the cylinder and improves combustion of diesel fuel. Based on the performance and emissions, it was found that the blend of RBO and HHO 10 lpm when used as alternative fuel at gives better results in comparison of single fuel used in CI Engine.
23	Harpreet Singh	1301785	ME	Investigation Of Effects Of Thermal Assisted Machining On Turning Of En 8 Steel	Prof. Sandeep Sharma	Er. Mohit Gaba		It is widely understood that aerospace materials such as titanium, nickel based alloys and high strength steels are difficult to machine owing to their favorable material properties. An alternative pathway to achieving greater tool life is thermally assisted machining (TAM). This approach is seemingly contradictory to the traditional method and instead relies on introducing heat from an external source to reduce the work piece material's strength and hardness, thereby reducing cutting forces and making the material easer to machine. In present research to investigate experimentally the role of thermal assisted machining on various parameters at recommended speed, feed and depth of cut, and to compare the effectiveness of dry machining with thermal assisted machining on EN-8 steel. The objective of present work is concluded and recorded that is Surface roughness has been decreased in thermal assisted machining significantly, due to the ease in machining by application of heat. Heat softens the material and helps in easy removal of the material resulting material removal rates increase significantly. As there is temperature involved in the process, it is expected to raise the hardness of the material. But as the both processes i.e. dry machining and TAM involves heat, there is no significant increase in micro-hardness comparatively. Keywords- Thermal assisted machining, Hard to machine materials
24	Rajbir Singh	1267134	CSE	Plant Identification and Classification Using Fuzzy Method of Segmentation	Er. Saurav Garg			Plants play an important role in both human life and other lives that exist on the earth. Due to environmental deterioration and lack of awareness, many rare plant species are at the margins of extinction. Despite the great advances made in botany, there are many plants yet to be discovered, classified, and utilized; unknown plants are treasures waiting to be found. Leaf classification and recognition for

								plant identification plays a vital role in all these endeavors. Leaf recognition can be made simpler by using computer aided automation. Automatic classification of plants is an important step for solving general problems like yield prediction, growth estimation and health prediction. Traditionally, botanists classify plants based on their floral parts, fruits and leaves. Flowers and fruits may not be the best choice for automatic plant identification as they appear during a limited period. However, leaves are numerous in number and are present for most of the year, which make them suitable for computerised plant classification. In this work we have proposed an algorithm to classify the flowers using geometric features.The algorithm has three distinct stages i) pre-processing ii) feature extraction and iii) classification. In the pre-processing stage, the leaf is segmented from the background using intensity based segmentation and FCM is used in this step. After this, image has been normalized. Normalization includes i) rotation of a leaf in such a way that its tip should be at the aligned to horizontal and the angle between the major axis of the leaf and the major axis of the frame should be zero, ii) the centroid of the leaf and the centroid of the frame should be same and iii) the size of the frame should be the same for all the sample images regardless of the resolution of image capturing devices and the size of the leaf.. In order to normalize an image we rotate the leaf around its centroid and translate it to the centroid of the frame. Feature extraction follows: the extracted features include different types of geometric features i.e. area, aspect ratio, perimeter, eccentricity etc. The main advantage of this stage is that it removes redundancy from the image and the leaf images are represented by a set of numerical features. These features become the input vector of the artificial neural network (ANN) in the classification stage. ANN with back propagation classifies the leaf based on the extracted features. The results have been verified on two datasets: Flora dataset and Indian leaf dataset. Experimental results show that the algorithm has achieved more than 90% accuracy rates.
25	Arvinder Singh	1267120	CSE	Design And Measurement Of Ber Of Faded	Er. Rajnish Kansal			Wireless spectrum is considered a limited and valuable communications resource as it influences productivity, security and our daily lives. The usage of the wireless

				Qpsk Modulated System				spectrum has been given much research focus due to its limited capacity. Wireless Communication is an application of science and technology that has come to be vital for modern existence. From the early radio and telephone to current devices such as mobile phones and laptops, accessing the global network has become the most essential and indispensable part of our lifestyle. Wireless communication is an ever-developing field, and the future holds many possibilities in this area. Deployment of Wireless LAN increases well around the globe, it is increasingly important for us to understand different technologies and select the most appropriate one. MIMO channel also has been implemented and the throughput of the system has been calculated. As it known, wireless channels key problem is fading, in order to combat this fading and improve the capacity and the throughput of the system, multiple antennas at both ends of the communication link are used. This thesis analysed the performance analysis of MIMO in Rayleigh fading envelope and helps in analysing the security and data rate of the channel. One of the driving strengths of QPSK using Gaussian method is the Signal-to-Noise Ratio (SNR) estimation and feedback channel for adaptation. Sudden time varying channel degrading effects sometimes require the transmission link to react appropriately so it can minimize the Bit Error Rate (BER). Thus, the objective of the thesis introduces a QPSK modulated scheme which utilizes a simple moments based SNR estimator for spectral and quality improvement for the wireless channel. Results of the our proposed method shows that Bit error rate in our proposed QPSK using Gaussian method modulated channel decreases as compared to the QPSK modulated channel.
26	Kamalpreet Singh	1267128	CSE	Implementation Of Natural Query Language Interface	Er. Rajnish Kansal			Complete information has become important part of the modern information based systems to make them more human friendly. Dealing with information inaccuracy, fuzzy techniques have been widely integrated with different database models and theories. Natural language query builder interface retrieves the required data from database when query is given in natural language. Each and every computer based application need to access information from database that requires knowledge of

								formal query language like SQL. But it is not possible for everyone to learn or write SQL queries. To overturn this problem many researchers have brought out to use Natural Language (NL) i.e. Punjabi, Arabic, English, Bengali etc. in place of formal query language which can be a perfect interface between an application of computer and nontechnical user. This idea of using NL has induced the development of new sort of processing method in database systems. This new system can be named as Natural Language Interface to Database Systems (NLIDBs). It is a type of communication channel between the user and the computer. The user no longer needs to learn any SQL queries. Without the knowledge of any programming language, a user can act as a programmer. No such hectic queries are required from the user, by the system. It becomes very easy for a person to access data from database who has no knowledge of formal query language. In this thesis we developed an algorithm that eliminates the problem of normal user to interact with database with rigid language SQL. The users are able to access information's by issuing query in simple Punjabi or English language. The Proposed system is developed in .NET. The application accept enquiry in natural language, convert it into technical SQL query and display the results in the same language. The features of this application are that it is online application, admin control panel, easy to operate and export to excel options.
27	Harsimran Singh Sekhon	1267124	CSE	Matlab Based Image Hiding Using Steganography Technique	Er. Navjot kaur toor			The art of information hiding has been around nearly as long as the need for covert communication. Steganography, the concealing of information, arose early on as an extremely useful method for covert information transmission. Steganography is the art of hiding secret message within a larger image or message such that the hidden message or an image is undetectable. Steganography is an effective way to hide sensitive information. In this thesis we have used the bit inversion LSB stegnography and improved bit inversion LSB stegnography on images to obtain secure stego-image. Results shows that PSNR of improved bit inversion LSB stegnography is higher than PSNR of bit inversion LSB stegnography and MSE of improved bit inversion LSB stegnography is less than MSE of bit inversion LSB

								stegnography. Our results indicate that the improved bit inversion LSB stegnography is better than simple bit inversion LSB stegnography. The image resolution doesn't change much and is negligible when we embed the message into the image and the image is protected. So, it is not possible to damage the data by unauthorized person. This thesis focuses on the approach like increasing the security of the message and increasing PSNR and reducing the distortion rate.
28	Kamaldeep Kaur	1267127	CSE	A Hybrid Approach Of Fcm Clustering And Genetic Algorithm To Improve Intrusion Detection Rate	Er. Navjot kaur toor			An Intrusion Detection System is a type of security software that inspects all network activity and analyses it for any kind of malicious activities that violate computer security policy. With an increase in dependency on the internet, there is significant increase in the number of internet attacks. The challenges increases towards the network security due to the introduction of new ways of attacks. To detect these attacks, a hybrid approach of Fuzzy C-means clustering and Genetic Algorithm (GA) is proposed that provides better accuracy & increases the intrusion detection rate. This approach provides better accuracy of detection as compared to K-means and FCM Clustering. With this proposed approach intrusion detection rate is improved considerably. The experimentation is implemented in MATLAB. A brief overview of a hybrid approach of genetic algorithm and fuzzy c-means clustering to improve anomaly or intrusion is presented. This thesis proposes genetic algorithm and fuzzy c-means clustering to generate to detect intrusions. The goal of intrusion detection is to monitor network activities automatically, detect malicious attacks and to establish a proper architecture of the computer network security. Experimental results demonstrate that we can achieve better accuracy with these modifications. Genetic algorithm and fuzzy c-means clustering decision-making module was designed to build the system more accurate for attack detection. The experiments showed that the proposed approach works well in detecting different attacks. The accuracy of FCM clustering and Genetic algorithm was good and comparable to K-means and FCM Clustering. Also, the accuracy can further be improved applying specific strategies to generate the fuzzy c-means clustering and genetic algorithm for Specific parameter.
29	Shakti Garg	1267137	CSE	Balancing Of	Er.			Cloud computing is the style of computing where massively

				Load To Evaluate Performance In Cloud Computing Environment	Parvinder Singh			scaled IT related capabilities are provided as a service across the internet to multiple external customers and are billed by consumption. Many cloud computing providers have popped up and there is a considerable growth in the usage of this service.

New possibilities to Internet applications developers have been opened with the advancement of Cloud technologies in the last few years. Previously one of the first and main concerns when designing an application for the Internet was deployment and hosting of an application. But with the advent of the Cloud, now it is possible to solve this problem more economically and more flexibly using the powerful infrastructure services provided by a Cloud service provider on an as required basis. A cloud consists of several elements such as clients, data centers and distributed servers, internet and it includes fault tolerance, high availability, effectiveness, scalability, flexibility, reduced overhead for users, reduced cost of ownership, on demand services and etc. The services of cloud computing are becoming ubiquitous, and serve as the primary source of computing power for different applications like enterprises and personal computing applications. One of the challenging scheduling problems in Cloud datacenters is to take the allocation and migration of reconfigurable virtual machines into consideration as well as the integrated features of hosting physical machines.

In order to select the virtual nodes for executing the task, Load balancing is a methodology to distribute workload across multiple computers, or other resources over the network links to achieve optimal resource utilization, minimum data processing time, minimum average response time, and avoid overload. The establishment of an effective load balancing algorithm and how to use Cloud computing resources efficiently for effective and efficient cloud computing is one of the Cloud computing service providers' ultimate goals. So in this, we explore the coordination between DC (Data Centers) and UB (user bound) to optimize the application performance and response time by using a tool called Cloud Analyst that can maintain the load balancing and provides better improved strategies through efficient job scheduling and modified resource allocation techniques. The main focus

								of research is to thoroughly analyze the virtualization technology in Cloud Computing Environment.
30	Shallu Garg	1267138	CSE	Simulation Analysis Of Jamming Attack On Wimax Physical Layer	Er. Parvinder Singh			Wireless networks are playing an imperative role in the daily existence. In today's times, the users want wireless connectivity for all location with all types of service. One of the major challenges for wireless network is security concern. First and foremost task is to detect the security attacks in the network and the second task is to prevent from an authorized attacks. The research is based on the study and the effect of various attacks mainly jamming and Jellyfish attacks. WiMax (Worldwide Interoperability for Microwave Access) is the name for 802.16 families of wireless services. It provides 30 to 40 megabit/sec data rates with the update providing 1 Gbit/sec for fixed stations. WiMax network has the capability of working on multiple bands to provide scalability and mobility with high data rates.

Demand of wireless communication is increasing day by day. Security of network becomes the main concern because wireless networks are more susceptible to network threats than the wired networks. Multicarrier systems such as WiMax offer good functionality under heavy interference. But some physical layer threats viz. single Carrier Jamming and Multi Carrier Jamming; e.g. Attackers selectively scramble control or management information to affect the operation of the network. Therefore, due to these attacks authenticity, integrity and confidentiality of the system is halted.

The aim of the thesis is to analyze the impact of single carrier jamming and multicarrier jamming in the WiMax network. Different parameters are used to analyze the impact of jamming on the network are throughput, load and delay. After simulation it is concluded that jamming puts a significant impact on WiMax network, due to which throughput decreases and a significant delay occurs in the network.

Keywords: Jamming, Jellyfish, WiMAX Network, Throughput, Delay, Load, OPNET Modeller, Carrier, Wireless, Attack, Simulation |
| 31 | Dinesh Kumar | 1301967 | ECE | Improve Gsm Network Call Drop By | Er. Manpreet | | | Telecommunication industry is moving so fast as to cater needs from user. Trends of lifestyle and mobile devices availability contribute to fast growth of telecommunication |

				Rf Optimization	Kaushal			industry. Hence operator needs to comply the needs with less investment as well as giving the best services in term of coverage and quality. Based on analysis and result, it is proven that the call drop can be reduced by optimization. All GSM Service Provider uses KPI (Key Performance Indicator) to monitor their quality of service (QOS) Performance. Nowadays major issue is call block in GSM. So if optimization major issue is call block in GSM. Our challenges are to reduce the call drop and improve the network quality. This is can be achieved first analysis the problem the diagnosis the network. At first we will find the area of the call the call drop. This is find the by customer complaint or by the continue drive test. After finding the area of we have to find the reason of the call drop and the call block. This can be by finding the drive test. Firstly we collect the data by in the field then by analysis that collected data and the find the reason of the call drop and call block. There are so many tools used for data collection and data analyzing. This is not an easy use for doing this engineer should be well experienced. Present system is working as designed earlier. There is no modification such as reduce call drop and reduce block calls. Our work is reduce the no. of block call and dropped calls by RF optimization. So RF optimization and drive test is tool to find reason of call drop. To improve the performances of the service provide. In this research paper some practical cases and solutions are adopted to reduce the call and increase the customer and profit of the service. Major parameters Rx level, Handover failure, Rx quality, C/A worst, etc. Drive test tool Ascom TEMS 16.3.1 and analyses MapInfo 9.3 used to perform drive test and analyze log files recoded in TEMS to find problem and give the solution of call drop. In addition the RF drive test simulation results are attached which can clearly shows that call drop id reduced and improvement in the parameter. The future scope of this thesis is that all telecom industries can reduce the no. of call drop and no. of call blocked. All industries can increase their customer satisfaction and profit as well. By using this idea the company can improve the Quality of Service.
32	Kulvir Singh	1301976	ECE	Image Fusion Methodlogy Using Hybrid	Er. Neeraj Julka			Image fusion is described as the process of combining two or more images to form a more informatics resultant image than any of the image used as input image. Image fusion is

| | | | | Pyramidal Dwt-Lp Approach | | | | | done to obtain a more enhanced and informative and more quality image from two or more images that are taken from different perspectives, different sensor, different modal and different temporal. In the process of image fusion, the information of all the images to be fused is considered and then fusion is done such that the resultant image will be more informative and qualitative. The need of image fusion is to obtain resultant image of high spatial and high spectral information. The algorithms that are developed for image fusion are input dependent. The process of image fusion finds its use in various control and exploration operations for domestic and non-civil goals. The application of image fusion include areas like satellite imaging; rob vision, object revelation and recognizance. Image fusion can also be employed in medical diagnosis and treatments. This is done by merging or overlaying different images of patient to obtain more accurate information. The technique of image fusion is used for determining the situation by combining the information from various sensors. Various algorithms have been designed for image fusion that includes Laplacian Pyramid, principal component analysis, Discrete Wavelet Fusion etc. Several techniques have been designed till date for efficient fusion like Principal Component Analysis, Discrete Wavelet based fusion etc. This report presents a hybrid technique for image fusion and the results of the applied hybrid technique are analyzed and verified using the MATLAB software. |
| 33 | Jatinder Kaur | 1301972 | ECE | COMPARATIVE ANALYSIS OF ARRAY & TREE BASED DIFFERENT MULTIPLIER CIRCUITS USING 180nm TECHNOLOGY | Er. Vikas Goyal | | | | Continuous scaling of the transistor size and reduction of the operating voltage has led to a significant performance improvement of integrated circuits. Low power consumption and smaller area are some of the most important criteria for the fabrication of DSP systems and high performance systems. Optimizing the power consumption and delay of the multiplier is a major design issue. However, area and speed are usually conflicting constraints so that improving speed results mostly in larger areas. In my research work I try to determine the best solution to this problem by comparing a few multipliers. In my research when I compare the power consumption of all the multipliers I find that CPL & DPL multipliers consume more power. So where power is an important criterion there I should prefer CSL multiplier. The low |

No	Name	ID	Branch	Title	Supervisor			Abstract
								power consumption quality of multipliers makes it a preferred choice in designing different circuits. In this research, designing of three different types of multipliers, and by implementing the components of different multipliers I compare the working of different multipliers by comparing the power consumption by each of them. The result of my research helps me to choose a better option between CSL, DPL & CPL adder in fabricating different systems. Multipliers form one of the most important components of many systems by analyzing the working of different multipliers. It is found that it helps to frame a better system with less power consumption, lesser area and lesser delay. This research focuses on the comparison between two algorithms for multiplication, Array and Wallace Tree. The implementation of these algorithms is performed by designing (8×8) bit multiplier blocks in 0.18μ C MOS technology using EDA Tanner v.13 (evaluation version) framework tools. Furthermore, the 8-bit multipliers cells are compared using EDA Tanner. Multiplier design in this article provides the low power requirement and presents an area efficient approach to low power, no. of transistors are less as compared to CMOS for any design.
34	Simandeep Kaur	1301986	ECE	A Two Dimensional Discrete Wavelet Transform Based Enhanced Technique Of Copy Move Forgery Detection	Er. Neeraj Julka			Communication in visual form is very important in itself. It is also a very convincing medium of transfer of information. Numerous fields of technology depend vastly on better quality and correctness of source image. Digital image plays vital role in the area of technology used in the fields of court, medical, agricultural and education etc. But digital image forgery creates problems for these technologies. Manipulation of images is now a very easy job due to availability of numerous images editing software. It is now possible to add, modify, or remove important features from an image without leaving any perceptual traces of tampering. Image forensics is a domain dedicated to stop such attempts and preserve the data in an image. Through this research work, we would like to detect a faulty image from image move forgery attack. Different functions are initialized for getting desired copy-move forgery detection. The main objective of this research is to detect the forgery attacks in images.

								A RANSAC (Random Sample Consensus) algorithm is used in detection of copy-move detection of a self-select image using MATLAB tools. The experimental results are carried out in the form of images, where firstly a sample of images is taken and then tampering or forged images are detected. The three parameters are calculated that are Hit rate, Miss Rate and FDR (False Detection Rate). The experimental results shows that proposed method can detect the copy-move forgery, even Tampered region operated by geometrical transform.
35	AKASH KHULLAR	1455446	ME	Vibration And Thermal Analysis Along With Design And Selection Of Connecting Rod Using Fem	Prof. Sandeep Sharma	Er. Navjot Inder Singh		CAD software and FEM is being increasingly used in modelling of different engineering products and analyzing their structural behavior. It becomes essential for a product to be tested during its manufacturing process under the same physical conditions (Loads, Vibrations and Thermal variations) it undergoes during its actual working to bypass the risk of failure. FEM and its associate-CAE software predict the results of the impact of working conditions on an engineering product. For an engineering product to be reliable, its structure should be stable to overcome the damage, fatigue and deformations. Thus it becomes much necessary for a firm to testify the structural reliability of their product. The structure analysis of an engineering product comprises of the application of the loads whether they are constant or varying to the particular points or parameters of the geometry of the product. Also the structure failure may occur due to the vibrations produced in a product during running conditions. Therefore it also becomes a necessity to confirm the natural frequencies or the frequencies under the loading conditions so that these frequencies could be avoided. The confirmation of the magnitude of these frequencies is done in vibration analysis. The stress might occur in a running mechanical part like connecting rod due to Gas pressure, inertia, vibration and thermal conditions of the internal of the engine. The temperature inside the engine is high affecting the material stability of the piston, connecting rod or crank. Also the both ends of the connecting rod have different temperature therefore temperature gradient is present. In our present study, we have taken into consideration an existing forged steel connecting rod model, whose dimensions are already determined; we have performed

								static structural analysis under same loads in CAE software and compared this analysis with the reference model to validate the previous analysis results. Later on, we have performed the same analysis along with vibration and thermal analysis after changing the material from forged steel to Stainless Steel and Aluminium 7068. As these materials have different mechanical properties, so the results of analysis would also be different. The structure analysis is repeated for other materials so as to find the best material. Our purpose of analyzing the connecting rod with different materials is optimization of the connecting rod design in terms of structural analysis. The main v consideration of the optimization is weight reduction of connecting rod besides low impact of the concerned loads acting on it. In present work, a connecting rod model of existing parameters is prepared in CAD software and analysis is performed in CAE software. Then the same model with different given materials is analyzed in case of vibration, thermal and static structure analysis under same loading conditions. The connecting rod model with comparatively lower weight and load impact over it is chosen as to be the final consideration. Then the alteration in the model during analysis is done for the purpose of material reduction from that part of the connecting rod where load impact is lower than another part of the connecting rod. Later, a comparative study of analysis results is run for the purpose of getting suitable result. It was found that Aluminium 7068 connecting rod has the minimum weight. So the Aluminium 7068 was chosen as the proposed new material for connecting rod. During the optimization process, the perimeters of the connecting rod were changed with in a definite range and for each perimeter alteration, the structure analysis was performed and results were compared in an approach to find the geometry with comparatively less load impact.
36	Raj Kumar	1452216	ME	To Study and Optimize the Effect of Cutting Parameters on the Surface roughness and Chip Formation of Mild Steel EN-8 Using	Er. Omesh Jindal	Er. Varind er Singh		Machining is a vital part of production process in the manufacturing industries. With the advancing technology, chip cutting based machining (turning, milling, drilling etc.) methods still conserve their importance. Turning is a form of machining operation which is used to create rotational parts by cutting away unwanted material and it require a turning machine or lathe and cutting tool. In metal cutting

				turning Process				industries it is essential to study the chip morphology and surface roughness during the machining operations. Good surface finish not only assures quality, but also reduces manufacturing cost. Surface finish is important in terms of tolerances, it reduces assembly time and avoids the need for secondary operation, thus reduces operation time and leads to overall cost reduction. Thus, the selection of cutting parameters, such as cutting speed, feed rate, depth of cut and cutting fluid, is very important as they directly affects the surface finish, chip shape and colour of chip. In this research, the main objective was to study and optimize the effect of various cutting parameters on surface roughness and chip formation of the material EN-8 using turning operation. The cutting operations were carried out on a conventional lathe machine making turning operation at a different depth of cuts and spindle speeds keeping the feed rate constant with the help of uncoated carbide cutting tool bit. The above operation was done in dry as well as wet conditions using vegetable oil as cutting fluid. After conducting the experiments, it has been found that surface roughness decreases with the increase of cutting speed and increases with increase in depth of cut. Also, the surface roughness decreases with use of the cutting fluid. The variations in chip shape and colour has also been observed with variation in different cutting parameters. A mathematical model has also been developed by using the full factorial method. The significance of the model has been tested by using the ANOVA. Keywords: - Turning, Cutting Speed, Feed Rate, Depth of Cut, Cutting Fluid, Surface Roughness, Chip Formation.
37	Amandeep Kaur	1301798	CSE	Hindi Digit Recognition	Er. Manish Mittal			Digit Recognition is one of the most important subjects in the field of OCR. The recognition can be performed on handwritten as well as printed data. Nearly 100% accuracy is obtained in case of printed Hindi digits but handwritten digits mainly suffered due to the variations in the writing documents by different writers. The recognition rate of an OCR machine varies depends upon the condition of inputted document it may increase or decrease, if degradations present in document are large in number accuraracy of documents decreases on the other hand if degradations present in document are less then accuracy of document increases. The recognition rate or success rate of OCR

machine also decreases for the recognition of handwritten data. This is mainly due to the due to the presence of variations in the writing documents by different writers. Handwritten OCR is a field of main research in Hindi language because Hindi is the national language of India. To accomplish this task of implementation of OCR machine for Hindi language many problems are arisen like due to the presence of variations in the writing styles of different authors the size of the digits may vary, structures of digits also vary, their thickness is also varied some digits are more thin and some are more thick and there is also a presence of noise in digits or change their structure. Digit Recognition systems have many applications like automatic reading of digit fields has been introduced in many areas such as: Processing bank check amounts, digit entries in forms filled up by hand, recognize zip codes on mail for postal address sorting and so on. Therefore it has received extensive attraction in academics and production fields for the development of recognition system in Hindi language. Handwritten recognition system is of two types one is online handwritten recognition system and other is offline handwritten recognition system. In online recognition systems, as the writer enters the data it is recognized continuously. It basically goes along the writing process and in offline handwriting recognition: offline handwriting recognition is performed after the writing or printing is complete.

In this thesis isolated handwritten Hindi digits are recognized in which various types of variations like their shapes, their sizes, their thickness, their thinness and their geometry structures variant digits are considered. Humans can read handwritten digits easily but it is too much difficult complicated for computers or machines to recognize that data. So, in this dissertation we have used structural and statistical features like vertical transition feature, horizontal transition feature, presence of loop, Left Profile feature, Right Profile feature, below Profile feature, above Profile feature and distance features etc. By using the proposed feature set 97.40% accuracy is achieved on Rule Based classifier. It is also observed that these same features give almost same results when applied on the images of handwritten Hindi digits captured by camera from walls,

| 38 | Salman Khan | 1301985 | ECE | Hybrid Approach For Reduction Of Papr From Orthogonal Frequency Devision Multiplexing | Er. Manpreet Kaushal | | | Communication system is considered to be efficient if it uses defined frequency range for transmitting huge amount of data. OFDM is a technique of digital communication that is employed for encoding digital data on multiple carrier frequencies. The technique of OFDM is considered over other techniques because it exploits the frequency spectrum effectively. Other advantages of OFDM technique are its robustness and efficiency against multipath fading channel. Because of the presence of numbers of sub carriers and the guard band in OFDM systems, the ISI effect and noise on the channel are lessened. The only drawback of this multicarrier transmission system is the PAPR effect that causes power inefficiency. In OFDM technique one among the foremost issues is of PAPR, because it will increase the system quality and additionally reduces the gain of the signal, therefore there's have to be compelled to cut back the result of the PAPR within the signal. By learning pervious PAPR reduction techniques a replacement approach is projected during this thesis. Earlier Clipping and filtering was done, that weren't able to scale back the result of PAPR to that extent .As clipping will only take away a region of signal and filtration created signal sleek. therefore a brand new analysis was created. |

Boards and vehicles.
Keywords: Hindi character recognition, Feature extraction, online handwritten recognition, printed recognition, OCR.

The aim of this research to identify new hyrid technique for PAPR reduction even in the presence of large number of sub carriers. It includes combination Clipping & Filtering technique, PTS, Companding technique using IFFT. IFFT is being used to make system simple, cheap, digital, and efficient. When applying each the PTS technique and therefore the filtration technique next are applied companding which will compand the signal removing PAPR result from the signal to a precise extent. This hybrid technique removes the disadvantages that were featured using the standard techniques like loss of gain of the signal and therefore the increasing quality of the signal. This hybrid approach reduces PAPR result from the signal and can manufacture higher and economical results than the sooner used techniques.